AMPHIPHOD NEWSLETTER - 2 V

December 1972

The pamphlet "An amphipod newsletter, a feasible idea?", which I sent out to ca 50 amphipod taxonomists in March 1972, and to many other amphipod workers in the months that followed, has met with a very enthusiastic and positive response. More than 80% of the scientists to whom I sent the Newsletter responded positively, and I have therefore decided to try to follow up with this second Amphipod Newsletter, which I hope will mark the start of a long series. The first newsletter was primarily addressed to taxonomists, and although this second newsletter contains the addresses of many workers on ecological, physiological and parasitological problems connected with amphipods and I have tried to cover the literature as fully as possible, its contents still lean rather heavily towards taxonomic and nomenclatural aspects. I hope this will not deter the non-taxonomists among us, but rather spur them into activity in order to get a more balanced third Newsletter.

I have had much help with addresses of amphipod workers, but dissappointingly little in compiling the list of recent literature. This explains the fact that the address list now contains as many as 207 addresses (making it tecnically impossible at this time to include the Isopoda or any other group in this venture), while the bibliography is probably quite incomplete.

A problem which is still unsolved is how much the Newsletter is to cost; ideas among colleagues seem to vary considerably. It is not yet possible for me to calculate the cost of producing and sending two newsletters a year, but in the next issue I hope to suggest a subscription fee. I intend to send the newsletter by air mail outside Europa and North America, but by surface mail to U.S.A. and Canada. I hope this will be agreeable to all of you. In the meantime I shall of course gladly accept any financial help you may be able to give, and I should also like to hear from those who have not written before whether they would like to continue to receive the Newsletter.

Ideas about what an Amphipod Newsletter should contain are as diverse as the amphipods themselves, but a few items keep recurring: Bibliographies (both a list of recent literature and bibliographies on specialized subjects); a "gossip column" telling of

people's interests and current research-programmes; data on the where-abouts of type-specimens, classic amphipod collections, translations of literature, etc., and of course changes of address, announcements of meetings etc. I myself should like to add that it may also be very useful to exchange ideas about "Material and Methods", such as anaesthetization and fixation fluids, marking methods, techniques of dissecting, cutting and embedding of e.g. heavily calcified cuticle, how to fix protozoan paratites so that they are of use to a specialist, etc., etc.

Finally, I want to thank those colleagues who have helped me with addresses, especially Thomas Bowman, Philippe Laval, John McCain, Sandro Ruffo, Chi Tai Shih and Kwang Il Yoo. Mrs. I.I. Greze has been invaluable as a contact with Russian scientists and literature, and she and Gordan Karaman have also helped me with translations from Russian. Mike Thurston deserves special mention as the only man who spontaneously sent a reference for inclusion in the bibliography!

The deadline for contributions to the third Amphipod News-letter is 1 July 1973, and my new address is: Tromsø Museum, N-9000 Tromsø, Norway (at 70 N!). I look forward to receiveng many comments, references, reprints and contributions before then, and apologize in advance for not answering personally to every one of them: the Newsletter is mainly a spare-time project.

Blomsterdalen, december 1972

Wim Vader.

## "THE CYAMIDEA - A NEW SUBORDER?"

I am working on a review of the Amphipoda and problems of higher systematics have raised their heads, specifically the question of whether or not the Cyamidae should be raised to the status of a suborder. Barnard (1969) hinted at this in his "Families and Genera of Marine Gammaridean Amphipoda" where he referred to them as "essentially comprising a fifth major group of Amphipoda". McCain (1970, Proceedings Biological Society of Washington, 82:841) quotes this and continues "their separation from the Caprellidea into a fifth suborder dererves consideration by a cyamid specialist".

Unfortunately, cyamid specialists are not thick on the ground these days, and after looking at what evidence there is I think there is a valid case for raising the Cyamidae to the level of assuborder. I suspect this has not been done before simply because there have been so few workers in either group and the status quo has been hallowed by time. I feel that if they were in the Isopoda, it would have been done long ago, and not just on grounds of convenience but of natural grouping and clear-cut distinction.

I would be grateful for any comments directed to me at the Crustacea Section, British Museum (Natural History), Cromwell Road, London, SW7, before May 1, 1973.

I would also appreciate comments on the advantages or disadvangages, reality or orherwise of the separation of the Hyperiidea by . Pirlot in 1929 (in the "Armauer Hansen" results) into Hyperiidea Physosomata (Subtribes Sciniformata and Lanceoliformata) and Hyperiidea Eugenuina as against Woltereck's Hyperiidea Gammaroidea and Hyperiidea Genuina with their accompanying differences in detail. Pirlot (1932) suggested a possible polyphyletic origin for the Hyperiidea but shied away from taking this any further at that time. I have not found any evidence so far that he raised the question again but I may well have overlooked something and again I would appreciate any comments. - D.E.Hurley".

<sup>\*</sup>Introduction a l'étude des Amphipodes Hypérides", in Annales de l'Institut Océanographique, 12:1-36

THE CORRECT SPELLING OF THE SPECIFIC NAME OF ORCHESTIA GAMMARELLUS (PALLAS) - Wim Vader

The supralittoral beach hopper, Orchestia gammarellus (Pallas), has been widely used in Europe as a subject for ecological and physiological studies; it may therefore be desirable to decide which of the two spellings of the specific epithet, "gammarellus" or "gammarella", is the correct one. At present both are in common use.

The amphipod in question was diagnosed by Pallas in 1766, and more fully described in 1772, as <u>Oniscus Gammarellus</u>. The word "<u>Gammarellus</u>", written with a capital G, is in my opinion a sustantive, a diminutive of <u>Gammarus</u>, in the same way as <u>Pulex</u> and <u>Locusta</u> also used by Pallas. Consequently, the spelling of the word is independent of the gender of the generic epithet, and the correct spelling is <u>Orchestia gammarellus</u>. I shall be glad to have any comments, especially a defence of the widely used form "gammarella" for the Newsletter.

#### NEWS FROM COLLEAGUES

To get this column started, I have used a number of quotations from letters I got in response to the first newsletter. I hope all amphipod workers will contribute to this column by writing in their interests and current programmes.

- J.L. BARNARD At present my main interests are: 1. The gammarideans of Mexico, Panama and the Galapagos Islands. 2. The gammarideans of Australia. Mrs. Margaret M. Drummond and I are working together on a monograph of the Phoxocephalidae of Australia.
- E.L. BOUSFIELD: Littoral marine amphipods and other peracaridans were collected at some 34 stations in the Cape Horn islands, S. America during the "Hudson 70" expeditions. I am personally planning to work up some amphipod families sech as Haustoriidae, Phoxocephalidae, Talitroidea and a few others, but the rest of the material (Pontogeneiidae, Calliopiidae, Oedicerotidae, Lysianassidae, etc.) is available to anyone interested in working up the material during the next 3-5 years. Since little material from the region is available in museum collections, som members with studies on antiboreal amphipods in progress might like to know of the existence of these recent collections.

- BOB COOPER: There will be two papers submitted for editing in approximately two months: 1. New Amphipoda from Stewart Island,
  New Zealand, 2. Wellington Harbour Amphipoda Pt. 1 Phoxocephalidae. The next section will involve the Lysianassidae.
- ROBERT A. CROKER: I have a large collection of Central Pacific amphipods (Marshall Islands), that will take a considerable amount of work to analyze. The collections include a number of very small "crevice living" species.
- FRANK EVANS: My interests are in North Sea hyperiids (<u>Parathemisto</u>, Hyperoche, Hyperia).
- ROBERT FOX: My own work for the past three years has been on faunistic studies of the estuaries of the southeastern United States and several papers are currently in preparation reporting that work. I am presently beginning studies on the biology of several species of Corophium on the North Carolina coast.
- J.R. HOLSINGER: My major interest in the Amphipoda is in the systematics of the freshwater Gammaridae of North America, especially the Crangonyx group of the family. I have a particular interest in subterranean amphipods and am also doing some ecological work with the group.
- P.J. LABOURG: I am working at present on the ecology of the brackish ponds around Arcachon. I am studying the benthic animal populations as well as those of the periphyton. The problems dealt with are the following: distribution, seasonal variations, reproductive activity, nutrition.
- JEAN-PAUL LAGARDERE: Il me faut déterminer une collection d'Amphipodes provenant du Golfe de Gascogne, récoltée entre 200 et 1300 m de profondeur sur des fonds meubles. Les données faunistiques et écologiques tirées des Amphipodes viendront s'ajouuter à celles recueillis sur les Décapodes, Mysidacés, Cumacés et Isopodes, dans le but d'une meilleure connaissance de la faune vagile du talus continental du Golfe de Gascogne.
- DIANA LAUBITZ: At present I am working on a revision of the genus

  <u>Dulichia</u> (Podoceridae), along with identification of the Ameri
  can Atlantic boreal and arctic podocerids.

- A.P.M. LOCKWOOD: In this laboratory we are at present studying the volume regulation and permeability to water in various amphipods, though with special reference to Gammarus duebeni.
- P.G. MOORE: Interests: Ecology of algal associated fauna, particularly in sublittoral zone. Presently working on <a href="Hyale nils-soni">Hyale nils-soni</a> as simple test population. Population dynamics, feeding leading to understanding of community regulative processes.
- ROLLIN D. REIMER: I have very good collections from Galveston Bay, Texas, and my efforts will be oriented to this geographical area rather than with any specific group.
- J.H. SANDERSON: Interested mainly in the taxonomy of British species.

  I am at present engaged in publishing a catalogue of the D.M.

  Reid collection which we have here, which includes type material. We have also material collected by T. Scott, D.S. Raitt, prof. MacIntosh, and of course W.S. Bruce material. We have here a very good library of literature relating to Amphipoda, and I would be willing to assist anyone with literature problems if it was at all possible. I also have some translations from the German of Pfeffer, Heller, Schellenberg and I hope to complete others if time permits.
- MARTIN SHEADER: I am at present working on the biology of North Sea hyperiids, and on the taxonomy of the genus <u>Parathemisto</u>.
- ANDRZEJ SKALSKI: My main research interests are on the subterranean Gammaridae in Poland. I have been working on the variability of Niphargus tatrensis and N. leopoliensis and redescribed both. A monograph of Polish subterranean Gammaridae is in preparation. I am also interested in some problems concerning ecology of underground gammarids.
- WIM VADER: I am at present mainly working on amphipods living in associations with sea amemones (all information on this topic is very welcome), and on mediterranean Haustoriidae and Stenothoidae, in connection with the preparation of the new Handbook of Mediterranean Amphipod. Further research interests:

  Atlantic Haustoriidae; Ellobiopsidae; protozoan and crustacean

associates of amphipods; biology and taxonomy of Norwegian and arctic Amphipoda.

KWANG IL Y00: I have been studying on the ecology of pelagic amphipods in the western North Pacific and adjacent seas of Japan during my stay in Japan in 1966-70. Currently, I am studying the CSK amphipod samples, both Hyperiids and Gammarids, collected from Korean Waters.

REQUESTS FOR INFORMATION, COOPERATION ETC. COROPHIUM

Dr. R.W. Ingle of the British Museum (Natural History), Cromwell Road, S.W.7, London, has completed a manuscript on the taxonomy of the genus Corophium. Through the kindness of various individuals and institutions he has examined material of all species except for Corophium homoceratum Yu. 1938, C. heteroceratum Yu, 1938, C. minutum Dang, 1965 and C.intermedium Dang, 1965. He has compiled keys to the world species and proposes to publish a preliminary illustrated key to this genus. He will be pleased to receive, and will undertake to identify, unnamed material of Corophium in order to check his manuscript keys. He is also interested in receiving material from the following regions: eastern Mediterranean, western Mediterranean particularly the North African coast, South America, India, East Indies, coasts of China and Japan, and northern Australia.

#### LEPTOCHEIRUS

I am beginning an autecological study of the marine gammarid, Leptocheirus pinguis (Stimpson) and wondered whether a request for in formation would be appropriate in the Amphipod Newsletter?.I am interested in distribution, comparative morphometrics, breeding history growth etc., of this or related species. References or preserved material would be most helpful - D.J. Wildish.

(I hope this may become a test-case of the usefulness of having an amphipod newsletter! - W.V.)

## ELLOBIOPSIDAE

I am collecting data on the distribution, biology and host-specificity of the ellobiopsid parasite of amphipods, <u>Thalassomyces marsupii</u> Kane, 1964. Hitherto this parasite has been found on spe-

cies of Hyperiidae (<u>Parathemisto</u>) and Eusiridae (<u>Eusirus</u> and <u>Rhachotropis</u>), with rumors of its occurrence on other predatory pelagic amphipods. I should be very grateful for information on and/or specimens of <u>Thalassomyces</u> parasitizing other amphipod genera than the three mentioned above. - Wim Vader.

#### MEDITERRANEAN AMPHIPODA

In connection with the preparation of the Mediterranean Handbook of Amphipoda, I need mediterranean material of the following amphipod species: Bathyporeia pilosa, Cressa dubia, Epimeria cornigera, Haustorius algeriensis, Lafystius sturionis, Melphidippella macra, Urothoe brevicornis and U. grimaldii s.str. I should also be very grateful for Black Sea and eastern Mediterranean specimens of Bathyporeia and Stenothoe species, and, in connection with another project, Black Sea Hyale pontica and Talorchestia brito. - Wim Vader.

THE PODASCONIDAE, ISOPOD PARASITES OF AMPHIPODA - Wim Vader & Jarl-Ove Strömberg.

The Podasconidae, one of the families of the tribe Cryptoniscina (Isopoda, Epicaridea), contains 5 nominal species, but none of them has been described sufficiently and the real number of species is unknown. The described species are parasites of Ampeliscidae (Ampelisca, Haploops) and Lysianassidae (Onisimus), but adult female parasites, which are virtually unidentifiable, have also been found on representatives of several other families. berg and S.-O. Nielsen of the University of Lund, Sweden, have taken up the study of the taxonomy of the Cryptoniscina, using scanning electron microscopy as a major tool, while Vader has studied the biology of a population of Parapodascon stebbingi parasitizing the amphipod Onisimus normani, itself an inquiline of sea anemon-We now intend to combine forces for a revision of the family Podasconidae, and shall be very grateful for information about, and the loan of material of, any cryptoniscid larvae you may have found as parasites of amphipods. Adult females podasconids, which are mere sacs filled with eggs or embryos, are very unsatisfactory to study from the taxonomic point of view, due to the lack of exterior characters, but we would welcome also such material and data about their occurrence. The appended bibliography of the very scattered literature on the Podasconidae is ordered chronologically, and only those pages actually containing data on podasconids are mentioned. Should some literature be omitted from this list, we should like to learn about it.

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#### ANNOUNCEMENTS

## GAMMARUS AND NIPHARGUS SYMPOSIUM

In 1969 the "Premier Colloque International sur le genre Niphargus" was held in Verona, Italy, under the chairmanship of Sandro Ruffo. The proceedings of this symposium have been published in 1972 as: S. Ruffo (ed.), 1972. Actes du Ier colloque international sur le genre Niphargus, Verona 15.-19. april 1969. Memorie Mus. Civ. Stor. Nat. Verona, Suppl. 5:1-91; the separate contributions have been included in the list of recent amphipod literature in this newsletter.

Now Dr. Ginet of the University of Lyon, France, has invited

specialists to the "2e Colloque International sur le genre Niphargus", to be combined with the "lerColloque International sur le genre Gammarus" (organized by A.L. Roux), and to be held in Lyon, France, 9.-11. July 1972. Among the items to be discussed can be mentioned: criteria for classification on the generic level in

Gammaridae, ecology of Gammaridae, individual, intraspecific and specific variability, etc. Further details on the Symposium can be obtained from Drs. R. Ginet and A.L. Roux, Biologie Animale et Zoologie (403), Université Cl. Bernard, 43, Bd du 11 Novembre 1918, 69621 <u>Villeurbanne</u>, France.

E.L. BOUSFIELD: SHALLOW-WATER GAMMARIDEAN AMPHIPODA OF NEW ENGLAND

The handbook of the amphipods of the region from the Gulf of Maine to the Middle Atlantic States is now scheduled for publication in January 1973. The book treats 200 species living mainly in depths of less than 100 ft., of which 125 species are fully figured, described and keyed; semiterrestrial, brackish-water and epigean fresh-water amphipods that occur within a few miles of the coast, are included. Amphipod morphology and systematics, life history, behavior and physiology are covered, as are methods of collecting, preservation and study. The book counts 344 pages, is published by Cornell University Press and costs 17.50 dollar. A rather expensive "must"!

A.W. JANKOWSKI: FAUNA OF THE USSR. CILIOPHORA. II-I SUBCLASS CHONOTRICHA.

Dr. Jankowski writes me that publication of this long-awaited monograph, which has been in press since 1967, now can be expected in winter or spring 1973. It will contain many previously insufficiently know or undescribed species of these curious ciliates, which with a single exception, only have been found as associates of Crustacea. Dr. Jankowski has in preparation also the volume on Suctoria in the same series, which a.o. will deal with the much discussed suctorian associates of Lake Baikal gammarids.

GAMMARIDEAN AMPHIPODA FROM THE SOUTH CHINA SEA- Wim Vader

Under the above title Miss Marilyn Clark Imbach published an extensive taxonomic study (NAGA Report 4(1) 1967, p.39-167), which

has never been abstracted in any of the major reference journals and which consequently has been completely overlooked by amphipodologists.

The collections on which miss Imbach's paper is based had been brought together by Dr. Victor A. Gallardo, from the Bay of Nhatrang, Viet Nam. The material, including types, is kept in the University Zoological Museum, Copenhagen, Denmark, and it was by stumbling upon the collection during a visit to that Museum last spring, that I gotherist clue about the probable existence of a major taxonomic paper. As most amphipod workers seem to be unaware of the existence of this study, a short summary of its contents may be useful.

The collections contained 34 identifiable species in 10 families, of which 20 are described as new. These are Ampelisca chinensis, A. honmungensis, A. maia, A. orops, Byblis calisto, B. febris, B. io, B. pilosa, Cymadusa valosa, Eriopisella propagatio, Idunella janisae, I.pauli, I. serra, Lepidepecreum nudum. Leucothoe alcyone, Socarnes dissimulantia, Synchelidium miraculum, Urothoe carda, U. cuspis and U. gelasina. Other taxa, for which a complete illustration is provided, are Ampelisca brevicornis (Costa), A. cyclops Walker (with A. iyoensis Nagata as a subspecies) A. misakiensis Dahl, Cheiriphotis? megacheles Giles, Grandideriella? gilesi Chilton, Photis species A and B, Urothoe orientalis Gurjanova, and U. spinidigitus Walker. Keys to Idunella, Urothoe and the SE-Asian species of Ampelisca are also given.

The paper is almost exclusively taxonomic in outline, with a few zoogeographic remarks in the somewhat mis-named "summary".

The NAGA-Reports contain the Scientific results of marine investigations of the South China Sea and the Gulf of Thailand 1959-1961, sponsored by the governments of South Viet-Nam, Thailand and the United States of America, and are published by Scripps Institution of Oceanography, La Jolla, California, U.S.A., where they also are obtainable. The printing date of volume 4 part 1 was apparently October or November 1967, and its price is 5 dollars. Dr. E. Brinton of Scripps desires me to state, however, that the Scripps Institution of Oceanography would be glad to send this volume free to amphipod workers in Asia, and to other specialists with limited budgets.

I am much indebted to Drs. Jörgen Knudsen and Torben Wolff (Köbenhavn), Prof. W. Stephenson (Brisbane), Dr. J.L. Barnard (Washington) and Dr. E. Brinton (La Jolla) for their help in

"tracking" miss Imbach's paper.

A LIST OF AMPHIPOD GENERA AND SPECIES DESCRIBED BY W. LILLJEBORG — Wim Vader.

Correct citation of the Amphipoda described by professor William Lilljeborg (1816-1908) of Uppsala, Sweden, has always proved difficult, for two reasons: 1. The author changed his name from Vilhelm (or Wilhelm) Liljeborg to William Lilljeborg somewhere around 1860, and 2. A number of species were described in two different papers, often without cross references. my own use, I have made a list of the correct spelling and dating of all Lilljeborg's nominal genera and species, together with a bibliography of his papers concerning Amphipoda. To save others the considerable amount of work involved, I have decided to publish this list in the Amphipod Newsletter. The items in the bibliography are numbered, and these numbers are used in the list of genera and species which is ordered alphabetically. The status' of Lilljeborg's names is mainly decided from the literature and does not imply own studies. Two genera and two species of Amphipoda have been dedicated to Lilljeborg. These are the genera Liljeborgia Bate, 1862 and Lilljeborgiella Schellenberg, 1931, and the species Anonyx lilljeborgii Boeck, 1871, and Leucothoe lilljeborgii Boeck, 1861.

I am much indebted to the Libraries of the Royal Swedish Academy of Sciences and of the University of Uppsala for bibliographical information.

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Acidostoma		VII-34	Acidostoma Lilljeborg, 1865
Ampelia	sca laevigata	VI -123	A. brevicornis (A. Costa)
Α.	macrocephala	IV7	A. macrocephala Liljeborg, 1853
Α.	tenuicornis	VI -123	A. tenuicornis Liljeborg, 1856
Amphith	noe compressa	IV -8	Atylus swammerdamei (MilneEdwards
Α.	pygmaea	IV -9	Photis reinhardi Kröyer
Anonyx	brachycercus	VII-27	Menigrates obtusifrons (Boeck)
Α.	nanoides	VII-25	Tryphosa nanoides (Lilljeborg, 1865)
Α.	norvegicus	III-22	Tmetonyx cicada (Fabricius) s.l.
Α.	pumilus	VII-10	Centromedon pumilus (Lilljeborg,
			1865)
Calliopius		VII-19	Calliopius Lilljeborg, 1865
Eurytenes (non Foerster,,			
	1862)	VII-11	Eurythenes S. Smith
Gammaropsis		V -455	Gammaropsis Liljeborg 1855
Gammaru	as assimilis	III-23	Cheirocratus assimilis (Lilje- borg, 1852)
G.	Duebenii	III-22	Gammarus duebenii Liljeborg 1852
G.	erythrophthalmus	V -455	Gammaropsis maculatus (Johnston)
G.	longipes	IV -10	Lembos longipes (Liljeborg, 1853)
G.	macronyx	V -458	Protomedeia fasciata Kröyer
G.	maculatus		
(n	on Johnston 1827)	IV -10	Melita obtusata (Montagu)
Haploops		VI -135	Haploops Liljeborg, 1856

H. carinata	VI -136	H. tubicola Liljeborg
H. tubicola	VI135	H. tubicola Liljeborg, 1856
Ischyrocerus minutus	II -346	I. anguipes Kröyer s.l.
Leucothoe norvegica	I -82	Metopa norvegica (Liljeborg, 1851
Microplax (non Fieber 1861	)VII-19	Liljeborgia Bate
0dius	VII-19	Odius Lilljeborg, 1865
Oediceropsis	VII-19	Oediceropsis Lilljeborg, 1865
0. brevicornis '	VII-19	0. brevicornis Lilljeborg, 1865
Tiron	VII-19	Tiron Lilljeborg, 1865
T. acanthurus	VII-19	T. acanthurus Lilljeborg 1865

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  Epimeria cora, Halice (?) ulcisor, Halicella halona, Pardaliscella (?) yaquina, Pardisynopia(?) lolo, Harpiniopsis percellaris, H.triplex, Paraphoxus; yigitegus, Pleusymtes coquilla. A number of earlier described species are redescribed and illustrated, and the synonymy of the Hippomedon denticulatus—group of species, and the pardaliscid genera Halice, Pardaliscella and Pardisynopia discussed.)

# TROMSZ MUSEUP BIBLIOTEKET

## RECENT AMPHIPOD LITERATURE 1971 - 1972

To judge from the reactions received after the first "amphipod newsletter" was sent out; one of the most important services of a newsletter to amphipodologists is considered to be the regular is -suing of an annotated bibliography of recent literature dealing with amphipods or other subjects thought to be of interest for us. It is therefore very much a pity that very few of those reacting have considered it worth while to keep me informed of their own production in the field in the years 1971 - 1972. As a result the production of the bibliography given below has costed me an ency ous amount of time, while the result probably is a quite incomplete list. Library facilities at my new address in Tromsø will probably, at least initially, be less good than in Bergen, and I should therefore once more like to ask everybody who wants this newsletter to be a success, to keep me informed about his new publications, or better still, to send me a reprint by air mail; the latter will enable me to give notes on new species, techniques etc. in the bibliography. especially "weak" in genetic, physiologic and biochemical literature, and papers dealing with endoparasites of Amphipods, and with subterranean species, and I shall be most grateful for any help I can get in these fields.

A further problem in compiling this bibliography has been where to draw the boundary in in - or excluding papers dealing with population studies, and general faunistic papers, listing the occurrence of a.o.a few amphipods. As examples of the first catergory I can mention many papers in the French journal "Tethys", Day, Field & Montgomery's paper on sandy bottoms off Carolina (J. Anim. Ecol. 40, 1971); or Dörjes' studies on sandy bottoms in Italy and Carolina (Senckenbergia mar. 3 and 4, 1971-72). Faunistic papers are of course published in profusion, often in journals of quite limited circulation. I have chosen to exclude most papers of these two types, if amphipods are not especially prominent in them, as to include them would nearly double the list of references, and make it still more incomplete. Comments on these problems are very welcome.

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- 179. P. Tongiorgo, Istituto de Biologia Generale, Universita di Pisa, Pisa, Italia
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- 181. N. Tzvetkova, Zoological Institute, Academy of Sciences USSR,

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- 188. A. Vlasblom, Institute of Delta Research, Vierstraat 32, Yerseke, Holland
- 189. E.E. Watkin, Department of Zoology, University College of Wales, Penglais, Aberystwyth, Wales

- 190. L. Watling, University of Delaware, College of Marine Studies, Field Station, <u>Lewes</u> (Del. 19958), U.S.A.
- 191. R. Weigmann (\*), Institut für Meereskunde, Diesternbrooker Weg 22, Kiel, Deutschland (BRD)
- 192. D.J. Wildish, Water Pollution Research Biological Station,
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- 193. W.D. Williams, Department of Zoology, Monash University, P.O. Box 92, Clayton, (Victoria 3168), Australia
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- 195. N.S. Yalynskya, Lvov State University, Lvov, USSR
- 196. Kwang Il Yoo, Department of Oceanography, Seoul National University, Seoul, South Korea

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- 197. J. Feeley, Department of Biology, College of William and Mary,
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- 198. W.B. Sikora, University of Georgia Marine Institute, <u>Sapelo</u>
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I had hoped to be able to list those workers with a special interest in e.g.: Talitroidea, Niphargus, amphipod physiology, protozoan parasites of amphipods, etc., separately, but this is at the present stage impracticable, as in many cases I do not know the special field of interest of the amphipod workers I have got the addresses of. I have numbered the present list, nevertheless, so that we may be able to use this list in later issues of the Newsletter, without having to repeat the addresses.